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Northwest Power Planning Council
Issue Paper

Wildlife Mitigation Planning

September 23, 1988

The purpose of this issue paper is to seek public comment on several wildlife mitigation proposals currently under review by the Council. Those wildlife mitigation proposals are for Grand Coulee Dam in Washington, the Willamette Basin facilities in Oregon, and Palisades, Anderson Ranch and Black Canyon dams in Idaho. These proposals raise a number of important issues that may need to be addressed in considering these and future wildlife mitigation proposals. To begin the discussion, this paper reviews the background of the wildlife program contained in the Columbia River Basin Fish and Wildlife Program and proposes several alternatives the Council may wish to consider in its process to amend the wildlife mitigation proposals into the program.

The Council staff is not recommending a specific alternative on the wildlife mitigation proposals in this issue paper. Rather, the paper outlines a series of issues and alternatives that should focus attention on wildlife concerns that arise in connection with the Council's fish and wildlife program. The Council will undertake discussions and consultations on this paper in an effort to resolve these issues.

The alternatives the Council may wish to consider for action on the wildlife mitigation proposals are as follows:

1. Amend the wildlife mitigation proposals as submitted by the fish and wildlife agencies and tribes into the fish and wildlife program.

2. Adjust the wildlife mitigation proposals so that only a specified portion of the mitigation is funded by the region's ratepayers. Amend the proposals into the fish and wildlife program accordingly.

3. Defer action on the pending wildlife mitigation proposals until wildlife policy issues can be addressed or all wildlife mitigation planning under the program is complete.

4. Define the boundaries of the wildlife program by a specified program level of effort and pace of implementation for approved mitigation projects over an appropriate time period.

5. Develop guiding policies for wildlife mitigation decisions and amend them into the fish and wildlife program.

The Council especially would appreciate comments on the following issues raised in this paper:

1. What is the relative priority that should be accorded to wildlife in the Council's fish and wildlife program in accordance with the Northwest Power Act?

2. Should the Council better define the wildlife program by establishing policy goals and objectives and a framework for carrying them out? If so, please comment on the areas the policy and objectives should address. Should a separate issue paper be prepared to discuss alternative goals and objectives and an implementation framework?

3. Do any of the alternatives or a combination of the alternatives discussed in this paper offer acceptable solutions for handling the wildlife mitigation proposals before the Council? If so, which one(s) and why? If not, please suggest additional alternatives.

4. What is a reasonable way to determine the portion of wildlife impacts attributable to hydropower at multipurpose dams? Is this a question the Council needs to resolve before adopting mitigation plans?

5. If the Council concludes that it is appropriate to take more time in making a final decision on the pending mitigation proposals, are there any projects within these proposals that could or should proceed in the interim? If so, why?

The Council is also seeking comment on the individual wildlife mitigation proposals. To help commentors, the wildlife mitigation proposals for Grand Coulee, Willamette Basin, Palisades and Anderson Ranch/Black Canyon dams are available upon request.

The schedule for presentation and comment on the issue paper is as follows:

September 14-15: Staff presentation of issue paper to the Council in Boise, Idaho.

October 12-13: Public comment on issue paper at the Council meeting in Montana.

November 9-10: Public comment on issue paper at the Council meeting in Washington.

December 14-15: Public comment on issue paper at the Council meeting in Oregon.

January 11-12, 1989: Public comment on issue paper at the Council meeting in Idaho.[1]

January 13: Deadline for written comments.

1./ The Council meeting schedule for 1988 has not been set. Therefore, the date and location of the January Council meeting are tentative. If the Council does not hold its monthly meeting in Idaho, alternative arrangements will be made to accommodate public comment in Idaho.

February 8-9: Council deliberation. If the Council were to enter a formal amendment process on any or all of the wildlife mitigation proposals, a new public comment period would follow.

Consultations will be scheduled with interested parties throughout the public comment period.

For copies of the wildlife mitigation plans contact Judy Allender, Northwest Power Planning Council, 851 S.W. Sixth Avenue, Suite 1100, Portland, Oregon 97204, 503-222-5161; 1-800-452-2324 (Oregon toll-free number); or 1-800-222-3355 (regional toll-free number).

INTRODUCTION

The Northwest Power Act requires the Council to develop a program to "protect, mitigate and enhance fish and wildlife" in the Columbia River Basin. 16 U.S.C. §839b(1)(A). In the legislative history of the Act, Representative John Dingell (D-Mich.) stated:

> . . .In developing the program, the Council and BPA should not slight wildlife needs. The fishery needs are important. Much emphasis and consideration of this legislation was on the anadromous and other fishery resources. However, from the beginning of our consideration of the bill in the House, we have stressed the need to protect, mitigate the adverse effects on, and enhance both fish and wildlife." (Cong. Rec. p. E5105 daily ed. Dec. 1, 1980).

To carry out this mandate, the Council established in its 1982 Fish and Wildlife Program a planning process to address the impacts of hydropower development and operations on wildlife in the Columbia River Basin. The planning process was designed to identify specific impacts to wildlife and its associated habitat, and to recommend appropriate mitigation measures. That process includes the following steps:

1. development of status reports on wildlife planning and mitigation programs at hydroelectric projects in the Columbia Basin;

2. presentation of statements identifying losses of wildlife and/or wildlife habitat;

3. development of mitigation plans; and

4. the subsequent incorporation of approved mitigation plans or appropriate alternatives into the fish and wildlife program.

In February 1987, the Council incorporated wildlife mitigation plans for Montana's Hungry Horse and Libby dams into the fish and wildlife program. These were the first and only wildlife mitigation plans to be reviewed and approved by the Council. During that amendment process, the Council decided that all future wildlife mitigation plans should be considered in amendment proceedings before they are included in the program for funding.

Since that time, the fish and wildlife agencies and tribes have completed wildlife mitigation proposals for Grand Coulee Dam in Washington, eight Willamette Basin hydroelectric facilities in Oregon, and the Palisades, Anderson Ranch and Black Canyon dams in Idaho. These proposals have been forwarded to the Council for review and consideration.

Prior to making a decision on whether to enter rulemaking to incorporate the proposals in the fish and wildlife program, Council staff believes it is important to discuss these mitigation proposals with affected regional parties. Concurrent with discussions on the merits of each of the individual mitigation proposals, it would be useful to discuss several broader wildlife policy issues as they relate to the program. Specifically, the Council will be seeking comment on the need for establishing regional goals and objectives for the wildlife program, the potential cost of the wildlife program and its impact on ratepayers, the allocation of responsibility for wildlife losses and the pace (schedule) at which wildlife projects should be implemented.

To aid the Council and region in focusing discussions on these issues, this issue paper explores:

1. the history and status of the wildlife program;

2. the development and content of the mitigation proposals before the Council;

3. issues often raised concerning the wildlife program; and

4. several alternatives the Council may wish to pursue when making a decision on the wildlife mitigation proposals.

BACKGROUND

The Wildlife Mitigation Planning Process

The Council's wildlife program contains a series of planning measures designed to formulate wildlife mitigation plans for each of the hydroelectric facilities[2] in the Columbia River Basin. This planning process contains the following components. (In some cases, the planning process can be modified to combine or eliminate various steps.)

1. Mitigation Status Reports

This planning measure (Section 1003(b)(1)) provided the Council with a review and analysis of the status of past, present and proposed wildlife planning and mitigation programs at each of the hydroelectric facilities in the basin. The status reports documented the need to pursue further wildlife planning at each of the hydroelectric facilities. (Copies of the reports can be obtained from the Council's Public Involvement Division.) This measure was funded by Bonneville and was completed by the region's agencies and tribes in 1984.

2. Wildlife Loss Statements

The second planning step (Section 1003(b)(2)) in the wildlife program calls for Bonneville to fund the development of wildlife loss statements at each of the hydroelectric facilities identified from the mitigation status reports. The loss statements are being developed by the appropriate wildlife agencies and tribes. The wildlife loss statements quantify the net impacts (positive and negative) to wildlife and/or wildlife habitat from the construction and operation[3] of a hydroelectric

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2./ Generally this issue paper is directed towards mitigation plans at federal hydroelectric facilities. However, the issue of how the Council's wildlife program directs wildlife planning at non-federal projects remains unresolved and the Council is seeking comments on how to resolve the issue as noted below. (See page 23.)

3./ Although several contracts between Bonneville and the agencies and tribes called for a quantification of impacts from the construction and operation of hydroelectric facilities, most loss statements and mitigation plans dealt strictly with impacts from construction, i.e., inundation. The agencies and tribes have stated they believe they can examine "system operation impacts" once the planning for the individual hydroelectric plans are complete.

facility. In most cases, wildlife loss statements and the corresponding mitigation plans are being developed on a hydroelectric project-by-project basis.

3. Wildlife Mitigation Plans

The third planning step (Section 1003(b)(3)) funded by Bonneville is the development of a wildlife mitigation plan to address the impacts identified in the loss statements. Once mitigation plans are completed by the appropriate agencies and tribes, they are forwarded to the Council for review. Mitigation proposals for Grand Coulee Dam, the Willamette Basin facilities, Palisades Dam, and Anderson Ranch and Black Canyon dams have reached this stage of the planning process. Attachment 1 provides the status of wildlife planning at federal hydroelectric facilities in the basin.

4. Program Amendments

The final action in this four step planning process (Section 1003(b)(4)) calls for the Council to amend the mitigation plans or appropriate alternatives into the fish and wildlife program. Council action is needed before Bonneville or the appropriate project operator begins funding the implementation of the mitigation plan(s). Prior to the submission of the current wildlife proposals, the Hungry Horse and Libby wildlife mitigation plans were the only plans to have come before the Council. Those plans were amended into the fish and wildlife program in February 1987, and implementation is being funded by Bonneville.

WILDLIFE PROGRAM IMPLEMENTATION

1. Hungry Horse and Libby Dam Mitigation Plans

The Council made several significant decisions in the course of adopting the Hungry Horse and Libby mitigation plans.[4] First, the Council determined that ratepayers should not be held accountable for funding 100 percent of the wildlife mitigation at these hydroelectric facilities. To determine the hydropower (ratepayer) obligation, the Council selected the Congressional repayment allocation (percent of invested dollars returnable to the Federal Treasury to repay borrowed funds) as a method to determine implementation responsibilities. Using this method, the hydropower obligation was reduced to approximately 77 percent of total mitigation costs for both mitigation plans. The Council explicitly stated that this method should not be construed as a precedent for future mitigation plan decisions. The Council felt at that time there had not been sufficient discussion and analysis of the allocation issue to adopt one method for all future wildlife mitigation plans.

Second, the Council rejected certain portions of the Hungry Horse and Libby mitigation plans because they proposed the conduct of additional studies to identify long-range management plans. The Council did not believe that further study constituted effective mitigation.

4./ See Northwest Power Planning Council Issue Paper, Hungry Horse Dam: Wildlife Mitigation Proposal (February 1986) and Columbia River Basin Fish and Wildlife Program, Appendix C, p. 20 (February 1987).

Third, the Council urged all parties to explore alternative methods, including a trust fund, for financing the wildlife mitigation measures at these facilities. The trust fund approach involves Bonneville Power Administration placing funds in an interest-bearing account. The implementing wildlife agency can draw on this account to fund approved wildlife mitigation activities. In theory, the account would be managed to produce additional funds for mitigation over time. Currently, Bonneville and the Montana Department of Fish, Wildlife and Parks are continuing negotiations on a trust fund for long-term implementation of measures at Hungry Horse and Libby dams. Parties are hopeful an agreement can be reached and forwarded to the Council later this calendar year.

PENDING WILDLIFE MITIGATION PROPOSALS

This section of the paper summarizes the wildlife mitigation proposals currently before the Council. Further descriptions and analysis of the proposals occur later in this paper. Because the proposals are lengthy, their details are summarized by the use of tables. Attachment 2 contains maps of the study areas for each of the hydropower facilities. Attachment 3 provides a summary of the estimated wildlife impacts (losses) identified by the agencies and tribes. Additional detail can be found in the individual mitigation proposals available from Bonneville Power Administration or the Council.

1. **The Grand Coulee Proposal** (Summarized from "Wildlife Protection, Mitigation and Enhancement Planning for Grand Coulee Dam," Final Report, August 1986.)

Grand Coulee Dam was completed in 1941 and impounded the Columbia River to form Franklin D. Roosevelt Reservoir, which is 151 miles long and averages 4,650 feet wide. In addition to the Columbia River, the reservoir includes portions of the Sandpoil River, the Spokane River, the Colville River, the Kettle River, and other tributary streams. At full pool level, the reservoir is 385 feet deep near the dam, has a surface area of about 82,270 acres, and holds approximately 5 million acre feet of water or about 10 percent of the Columbia River's average annual flow at the Canadian border. Grand Coulee Dam, with an installed capacity of 6,180 megawatts, is a multipurpose project and is operated and maintained by the U.S. Bureau of Reclamation (Bureau). Congress provided no funding to mitigate the hydropower-related effects of the project on wildlife.[5]

The wildlife mitigation proposal for Grand Coulee Dam was completed by the Washington Department of Wildlife in late 1986 and submitted to the Council for action in January 1987. The planning process used to develop the mitigation plan was unique in two ways. First, a detailed loss statement (1003(b)(2)) was not completed for Grand Coulee Dam. This planning step was bypassed at the request of the Council. The Council felt it would be better for the affected parties to move directly into mitigation planning (1003(b)(3)) rather than spend time debating the size of the wildlife losses.

Second, the Grand Coulee mitigation proposal was developed under the supervision of an oversight committee. The committee included representatives of the pertinent wildlife agencies,

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5./ The Pacific Northwest Utilities Conference Committee has argued that a substantial amount of wildlife mitigation has been undertaken in conjunction with the Columbia Basin Project. The agencies and tribes argue that these mitigation activities were designed to mitigate for irrigation development, not hydropower development.

tribes, the Bureau of Reclamation, Council staff, Bonneville and the utility sector. The committee provided guidance and direction during development of the mitigation proposal.

a. Wildlife Losses. In place of a detailed wildlife loss statement, the Washington Department of Wildlife used a different procedure to identify and quantify impacts. Initially a working paper outlined concerns and direction for wildlife planning. The working paper proposed mitigation concepts and a "conceptual" goal.[6] The goal was acquisition of lands or management rights to lands totaling approximately 70,000 acres, and improvement and maintenance of those lands to increase and maintain wildlife carrying capacity (the maximum number of animals an area can sustain without suffering vegetation and other habitat damage).

Then, the Washington Department of Wildlife performed a limited study to estimate losses of wildlife and habitat due to inundation and reservoir level fluctuations resulting from development and operation of Grand Coulee Dam for hydropower production. Habitat losses were determined from interpretation of pre-project aerial photographs. Indicator species were chosen to represent general habitat types and habitat requirements of most wildlife which were known to occur in the study area and which were likely to have been affected by the project. Losses in terms of habitat were determined for the indicator species using a modification of the U.S. Fish and Wildlife Service Habitat Evaluation Procedure.[7]

b. Mitigation Proposal. To fully replace the estimated habitat unit losses associated with Grand Coulee development, the Washington Department of Wildlife estimated that 244,722 acres of land would need to be protected and improved for wildlife. Rather than pursue full redress for losses, the Washington Department of Wildlife proposes to protect the same number of habitat units as were lost (approximately 73,522 acres) due to the inundation behind Grand Coulee Dam. As estimated by the Washington Department of Wildlife, this is less than one third of the estimated wildlife and habitat losses caused by Grand Coulee Dam.

6./ The working paper was drafted by the Washington Department of Wildlife from a meeting held on April 2, 1985 to discuss wildlife planning efforts. Representatives from the agencies, tribes, utilities, Bureau, Bonneville and the Council attended the meeting. While the concept of the "conceptual" goal was discussed, it may not have been agreed to by all parties attending the meeting. However, no other goals were offered as alternatives.

7./ Generally, wildlife agencies and tribes in Washington, Oregon and Idaho have used a process known as the Habitat Evaluation Procedure to evaluate habitat losses. U.S. Fish and Wildlife Service, Division of Ecological Services, "Habitat Evaluation Procedure" (1980). Using the process, habitat losses for each target species are represented by Habitat Units (quantity of habitat multiplied by quality) instead of arbitrary acreages assigned for replacement purposes. One Habitat Unit is equal to one acre of optimum habitat for an individual target species. To compare preconstruction with replacement habitat, agencies assign habitat suitability values for a given indicator species selected to represent a number of species using similar habitat. The Habitat Evaluation Procedure is a modeling tool that has been used by the fish and wildlife agencies and tribes for several years. Like any model, its reliability rests with the quality of data used by the agencies and tribes to estimate wildlife habitat losses and gains. To ensure the best data was applied, the agencies and tribes utilized interagency teams of biologists to assist in data gathering and analysis at each of the hydroelectric projects.

The final mitigation proposal is composed of the following parts, which would be divided between the Colville Confederated Tribes, the Spokane Tribe and the State of Washington:[8]

- Acquisition of sufficient land or management rights to protect habitat units equivalent to those lost. Approximately 73,000 acres of land would be required. Priority parcels are identified in the mitigation proposal. Habitat unit types include protection for several upland game, non-game, riparian, waterfowl and big game species.

- Improvement and management of these lands to obtain and perpetuate the habitat units. Annual operation and maintenance funds are being requested for the life of the project.

- Protection and enhancement of identified bald eagle territories and communal roosts. Selected tree planting on protected lands, and protection and enhancement of potential nesting habitat if warranted.

2. **The Willamette Basin Proposal** (Summarized from "A Wildlife Habitat Protection, Mitigation and Enhancement Plan for Eight Federal Hydroelectric Facilities in the Willamette River Basin," Final Report, May 1987.)

The Willamette Basin hydroelectric facilities are located in three major drainages of the Willamette River Basin. Cougar Dam (25 MW) is located on the South Fork McKenzie River; Dexter (15 MW), Lookout Point (120 MW) and Hills Creek (30 MW) dams are located on the Middle Fork Willamette River; Foster Dam (20 MW) is located on the South Santiam River; Green Peter Dam (80 MW) on the Middle Santiam River; and Big Cliff (18 MW) and Detroit (100 MW) dams on the North Santiam River. Construction of the facilities was initiated between 1947 and 1961 with operations commencing between 1954 and 1969. All eight dams are multipurpose facilities and are operated and maintained by the Corps of Engineers (Corps). Congress provided no funding to mitigate the effects on wildlife at these facilities.

The wildlife mitigation proposal for the Willamette Basin hydroelectric facilities was completed and submitted to the Council for action in May 1987 by the Oregon Department of Fish and Wildlife. Wildlife loss statements were completed for each of the individual hydroelectric facilities in the Willamette Basin. The decision to develop a comprehensive mitigation plan at all projects simultaneously was based on the limited wildlife enhancement opportunities close to the reservoirs, the homogeneity of the affected and existing environment around the reservoirs, and the fact that all the projects are operated and maintained by the Corps.

Development of the mitigation proposal was consistent with the planning provisions outlined in Section 1003(b) of the fish and wildlife program. The Oregon Department of Fish and Wildlife was the lead agency for the development of the wildlife loss statement (1003(b)(2)) and the

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8./ Estimated land needs (acres to acquire) identified in the proposal are:

	Colville	Spokane	State
Private/Allotted Lands	7,300	3,210	41,132
Public/Tribal Lands	4,000	7,380	10,500

corresponding mitigation proposal (1003(b)(3)). An interagency coordination team composed of federal and state agencies and the Corps participated in the development and review of the mitigation proposal.

a. Wildlife Losses. The method used to evaluate the net impacts to wildlife as a result of the Willamette facilities was a habitat-based approach utilizing the Habitat Evaluation Procedure.[9] Using the procedure, an interagency team of biologists selected evaluation or "target" species and subsequently evaluated habitat conditions based on the selected species habitat criteria. The Oregon Department of Fish and Wildlife states that only impacts attributable to hydroelectric development, maintenance and operation were evaluated, i.e., impacts from irrigation, power lines, roads, project operation, etc. were not addressed. The Oregon Department of Fish and Wildlife calculated the wildlife losses attributable to hydropower by determining the percentage of project flows required for hydropower operation. The remaining non-hydro portion of flows was used to reduce the level of proposed mitigation so that ratepayers would fund only hydro-related mitigation. The Oregon Department of Fish and Wildlife believes this is the best method for determining losses attributable to hydropower.

b. Mitigation Proposal. From the loss statement, the Oregon Department of Fish and Wildlife estimated that 20,123 acres of prime habitat (15,295 elk habitat units) were permanently lost as a result of the eight hydroelectric facilities. The habitat losses were grouped into three categories:[10] big game winter range, riparian habitat (i.e., vegetation along streams and rivers), and old-growth forest (i.e., timber stands 200 years old or more).

The goal of the mitigation proposal is to protect sufficient habitat through purchase, easement and enhancement to compensate for the value of the habitat directly impacted, and regain wildlife management opportunities. This goal seeks to mitigate for the type and proportion of the original habitat to the greatest extent possible, thus benefiting the largest number of affected wildlife species. To address these goals, the Oregon Department of Fish and Wildlife suggests the following mitigation approach:

- Purchase or acquire management rights for 20,000 acres of cut-over forest lands as mitigation primarily for big game winter range. Improve and manage these acquired lands.

- Purchase approximately 4,400 acres of private land along the Willamette River Greenway as mitigation for riparian habitat.

9./ See footnote 7.

10./ Essentially, the division of 20,123 acres represents "critical" big game winter range dissected into components (i.e., 49 percent general purpose winter range, 25 percent riparian, and 26 percent old-growth). The most important reason for this approach is that, although riparian habitat and old-growth forest are necessary to the existence of critical elk winter range, they also have intrinsic value to many other wildlife species.

- Acquire old growth forest land according to one of the following options:[11]

  Option 1: Purchase 3,956 acres of Douglas fir forest land with the majority of the timber stand being at least 150 to 200 years old and possessing the attributes of true "old-growth" forest.

  Option 2: Purchase 5,934 acres of second growth forest land that is at least 40 years old for eventual replacement of old-growth.

  Option 3: Take 25 percent of the average cost of Options 1 and 2 (approximately $20 million) and dedicate it to partial mitigation of old-growth when the opportunity arises, with the remaining to be spent to maximize the other mitigation opportunities in the proposal.

- Improve and manage these acquired lands.

- Use enhancement on public lands and other options to achieve mitigation goals when and where the opportunities exist and are consistent with the overall mitigation goal.

3. **The Palisades Proposal** (Summarized from "Wildlife Protection, Mitigation and Enhancement Plan - Palisades Project," Final Report, 1986.)

Palisades Dam and Reservoir are located on the South Fork Snake River, approximately 50 miles southeast of Idaho Falls, Idaho on the Idaho/Wyoming border. Construction of Palisades Dam began in 1951, and the dam and power plant were completed in 1957 and 1958, respectively. Palisades Dam created a 15,600 surface-acre reservoir (890 acres are in the state of Wyoming) with over 1 million acre-feet of water storage capacity. Palisades Dam (131 MW) is a multipurpose facility and is operated and maintained by the Bureau of Reclamation. Congress provided no funding to mitigate the impacts on wildlife.[12]

The wildlife mitigation proposal for Palisades Dam was completed by the Idaho Department of Fish and Game in November 1986 and submitted to the Council for action in early 1987. Development of the wildlife mitigation proposal was consistent with the planning provisions contained in Section 1003(b) of the fish and wildlife program. The U.S. Fish and Wildlife Service was the lead agency for the development of the wildlife loss statement for Palisades Dam. The Idaho Department of Fish and Game was the lead agency for the development of the

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11./ There was disagreement between the U.S. Fish and Wildlife Service and the Oregon Department of Fish and Wildlife over the level of mitigation for the old-growth component of the proposal. The disagreement has not been resolved. Therefore, the Oregon Department of Fish and Wildlife provided three funding options for the Council to consider in its action on the proposal.

12./ The Bureau has been responsive to agency requests for flow releases from Palisades Reservoir for fish and wildlife values. However, no structural measures have been implemented to mitigate for the loss of habitat due to the impoundment of Palisades Reservoir or for the loss of wildlife below the reservoir.

corresponding wildlife mitigation proposal. All affected federal and state agencies, tribes and the project operator participated in the development and review of the mitigation proposal.

a. Wildlife Losses. The method used to evaluate the net impacts to wildlife as a result of the Palisades project was a habitat-based approach using the Habitat Evaluation Procedure.[13] An interagency work group of biologists selected evaluation species to represent important species groups or species of special concern. Impacts to evaluation species were measured in terms of the difference between pre- and post-construction habitat units. The Idaho Department of Fish and Game states that all project impacts are attributable to hydroelectric development since the project was economically unfeasible without the hydropower component. Accordingly, the agency attributes 100 percent of the wildlife impacts to hydropower development.

b. Mitigation Proposal. From the loss statement, the Idaho Department of Fish and Game and the interagency work group agreed that a reasonable mitigation goal would be to protect and/or enhance the same number of target species habitat units that were lost due to inundation. Furthermore, it was agreed that wildlife should be protected and enhanced in both Idaho and Wyoming to reflect each state's wildlife impacts. The mitigation proposal used the estimated habitat lost (approximately 37,068 habitat units for several target species) as a guideline for developing mitigation objectives, while also considering the needs of wildlife in the area. Operation and maintenance funds are proposed for the life of the hydropower project. To achieve the stated goal, the Idaho Department of Fish and Game and the interagency team suggest the following proposals:

- Bald Eagle and nongame riparian species: Protect by easement or acquisition and enhance 5,825 acres of riparian habitat, preferably along the South Fork and Henrys Fork of the Snake River. Enhance bald eagle nest sites in the vicinity of Palisades Reservoir. Establish bald eagle winter perches on the Market Lake and Mud Lake Wildlife Management Areas.

- Big Game (Elk and Mule Deer): Protect by easement or acquisition and enhance 13,790 acres of big game winter range in eastern Idaho, preferably in Sand Creek or Swan Valley areas.

- Waterfowl/Aquatic Furbearers: Enhance habitat in the Market Lake and Mud Lake Wildlife Management Areas and in the upper end of the reservoir. Protect by easement or acquisition 1,000 acres in the Grays Lake area.

- Ruffed Grouse: Enhance 4,928 acres of aspen forest in the Bridger-Teton National Forest. Enhancement will include prescribed burning and other methods to stimulate aspen regeneration.

- Peregrine Falcon: Establish and maintain for at least 10 years three reintroduction sites near the reservoir.

13./ See footnote 7.

4. **The Anderson Ranch and Black Canyon Proposals** (Summarized from "Wildlife Protection Mitigation and Enhancement Plans - Anderson Ranch and Black Canyon Facilities," Final Report, 1986.)

Anderson Ranch Dam is located on the South Fork of the Boise River, about 20 air miles north of Mountain Home, Idaho. The reservoir inundated 4,740 acres of habitat, 18.3 miles of river channel and 6.7 miles of tributaries. Anderson Ranch Dam (40 MW) was completed in 1950 and is operated and maintained by the Bureau of Reclamation. Congress provided no funding to mitigate the impacts on wildlife at the project.[14]

Black Canyon Dam is located on the Payette River near Emmett, Idaho. The reservoir, at full pool, extends about nine miles upstream from the dam and covers about 1,100 acres. Black Canyon Dam (8 MW) was completed in 1924 and is also operated and maintained by the Bureau. Black Canyon Dam and upstream storage reservoirs provide a system that allows the Bureau to optimize irrigation releases and power production. Deadwood and Cascade reservoirs were both authorized with expectations of contributing to federal power production at Black Canyon Dam. Congress provided no funding to mitigate the impacts on wildlife.[15]

The wildlife mitigation proposals for Anderson Ranch and Black Canyon dams were completed by the Idaho Department of Fish and Game in late 1986 and submitted to the Council for action in 1987. Development of the mitigation proposals for these facilities was consistent with the planning provisions outlined in Section 1003(b) of the Council's fish and wildlife program. The Idaho Department of Fish and Game was the lead agency for the development of the loss statement and mitigation proposals. All of the pertinent federal and state wildlife agencies, tribes and the Bureau participated in the development of the mitigation proposals.

a. **Wildlife Losses.** Like the Palisades proposal, the method used to estimate the net impacts to wildlife as a result of Anderson Ranch and Black Canyon dams was a habitat-based approach using the Habitat Evaluation Procedure.[16] An interagency work group of biologists selected evaluation species to represent important species groups or species of special concern. Impacts to evaluation species were measured in terms of the difference between pre- and post-construction habitat units. The Idaho Department of Fish and Game states that only impacts attributable to hydropower were evaluated. The agency maintains that since the projects were economically unfeasible without the hydropower benefits, the wildlife mitigation costs should be fully attributable to hydropower development.

14./ The Bureau leased 2,300 acres to the Idaho Department of Fish and Game between 1953 and 1978 (not renewed). Project lands around the reservoir received national forest status in 1968. The Forest Service received full administrative authority for these lands in 1970.

15./ The upper one-third of the reservoir has silted in, causing flooding of adjacent land. The Bureau has acquired 1,095 acres of these lands. These lands are managed as the Montour Wildlife/Recreation Area under an agreement signed by the Bureau and the Idaho Department of Fish and Game in 1983. The Bureau also leases about 35 acres to the Idaho Department of Fish and Game downstream of the dam under an agreement signed in 1981.

16./ See footnote 7.

b. Mitigation Proposals. From the loss statements, the Idaho Department of Fish and Game and the interagency work team agreed that a reasonable goal would be to protect and/or enhance the same number of target species' habitat units that were lost as a result of inundation of the reservoirs. The mitigation proposals used the estimated habitat lost (approximately 9,619 habitat units for selected target species at Anderson Ranch Dam and 2,238 habitat units for selected target species at Black Canyon Dam) as guidelines for addressing objectives, while also considering the needs of wildlife in the area. Because large multispecies mitigation projects are proposed, some target species will gain more habitat units than were originally lost, and some will gain fewer. To address the needs for wildlife in the area, the proposal suggests that some trade-offs between extra benefits to some target species would have to occur. To achieve the goals for both projects, the Idaho Department of Fish and Game and the interagency team suggest the following proposals:

Anderson Ranch

- Riparian and upland species: Protect through easement or acquisition, enhance and maintain 6,100 acres of wetlands and uplands in the Camas Creek area; 960 acres of Columbian Sharp-tailed Grouse habitat associated with the Nelson Ranch (a Nature Conservancy Project); and 200 acres of forested wetlands on the Boise River.

- Mule deer: Enhance 15,500 acres of mule deer winter range on BLM lands in the Bennett Hills area.

- Peregrine Falcon: Establish and maintain one reintroduction site for at least 10 years.

- Anderson Ranch Borrow Site: Rehabilitate and enhance the site that provided fill for the dam.

Black Canyon

- Riparian and upland species: Protect by easement or acquisition, enhance and maintain 800 acres of wetlands and uplands in the Bruneau River Valley.

- Columbian Sharp-tailed Grouse: Protect by easement or acquisition, enhance and maintain 600 acres of habitat associated with the Nelson Ranch.

- Mule Deer: Protect by easement or acquisition, enhance and maintain 500 acres of winter range adjacent to the Boise River Wildlife Management Area.

PROGRAM ISSUES

Over the past six years, the Columbia Basin agencies and tribes have developed wildlife protection, mitigation and enhancement proposals for the federal hydroelectric projects in the basin. Throughout this period, the agencies and tribes have followed the planning guidelines set forth in the Council's fish and wildlife program. While all parties have not always agreed with the planning process used to develop these proposals, participation by affected entities was encouraged by the agencies and tribes (using mailings, meetings, etc.) and participant recommendations were taken into account.

Utility representatives and, to a lesser degree, the Corps of Engineers have often been critical of the current wildlife planning process.[17] Their dissatisfaction has centered around the following issues: 1) the need to address impacts to wildlife utilizing a basinwide approach, rather than a project-by-project approach; 2) disagreement with the methods used by the agencies and tribes to determine impacts to wildlife; 3) a belief that the costs of wildlife mitigation must be allocated among the project purposes at multipurpose facilities; and 4) a concern that the overall costs of the mitigation proposals are too high and should be negotiated.

Disagreement between the parties (i.e., utility interests and the agencies and tribes) has led to polarized opinions regarding wildlife mitigation planning in the basin. Since the Council's decision on the Hungry Horse and Libby dam plans, the utility representatives have preferred not to participate in development of the wildlife mitigation plans and generally have worked internally to develop positions for later presentation to the Council.

To further the discussion of wildlife issues, the Council staff has developed several alternatives for regional consideration. The staff is not suggesting that any one of these alternatives is the best course of action for the Council, and the various interests may be able to propose additional alternatives for consideration. Each of the alternatives offers different solutions to some of the complex wildlife issues before the Council. Staff has also sketched the most frequently raised issues about each alternative.

17./ The Corps and the Pacific Northwest Utilities Conference Committee (PNUCC) in past years have submitted amendment applications to the Council to revise the wildlife planning process (Section 1003(b)). In 1984, PNUCC, the Columbia Basin Fish and Wildlife Council and the Montana Department of Fish, Wildlife and Parks suggested (by amendment application) the Council clarify various Section 1003(b) planning measures. The Council adopted language from these applications and Section 1003(b) has remained unchanged. During the same amendment process, the Council received an amendment application from the Corps that called for a substantial revision of the wildlife program. The Corps proposed a detailed program for protecting selected wildlife species by establishing basinwide wildlife goals and objectives. While the Council found worthwhile many of the elements in the amendment, it was rejected because the proposed process deviated too much from the wildlife planning approach followed since 1983. See amendment applications PN/1004(b)(1), pp. 2134-2152, CB/1004(b), pp. 2120-2133, MF/1004(b)(1), pp. 2185-2200, CE/1004 pp. 2095-2119, Northwest Power Planning Council Applications for Amendment, Section 1000, Vol. V (January 1984). In 1987, the Council rejected another amendment application submitted by PNUCC calling for another revision to the Section 1003(b) planning process. This application essentially called for negotiation of mitigation plans by the affected parties. See Columbia River Basin Fish and Wildlife Program, Appendix C, p. 27, (February 11, 1987).

ALTERNATIVES

Alternative 1. Amend the wildlife mitigation proposals as submitted by the wildlife agencies and tribes into the fish and wildlife program.

Approach

The wildlife mitigation proposals for Grand Coulee, the Willamette Basin, Palisades, Anderson Ranch and Black Canyon dams were developed by the wildlife agencies and tribes consistent with the direction provided by the Council in Section 1003(b) of the Columbia River Basin Fish and Wildlife Program. The Council could approve the wildlife mitigation proposals in total and amend them into the fish and wildlife program.

Summaries of the methods used to determine impacts (losses) and the protection and enhancement proposals to address those impacts were presented earlier in this paper.

The proposed schedule for implementation and estimated costs are summarized in the following table. The cost figures for the proposals are the best estimates of the agencies and tribes at this time. The agencies and tribes have indicated they are flexible on extending these schedules, if necessary.

State/Facility	Estimated Cost	Proposed Implementation Schedule
Washington		
Grand Coulee	$41.3 million ($1.5 million annual operation and maintenance)	10 years for initial implementation plus annual operation and maintenance for the life of the project.
Oregon		
Willamette Basin	$46.3 to $106.3 million (annual O&M costs after implementation are uncertain)	20 years for initial implementation.
Idaho		
Palisades	$15.7 million ($326,900 annual O&M)	10 years for initial implementation plus annual O&M for the life of the project.
Anderson Ranch	$4.5 million ($144,000 annual O&M)	Same as Palisades.
Black Canyon	$0.8 million ($30,000 annual O&M)	Same as Palisades.

The agencies and tribes have provided the Council with a list of priority wildlife actions spread over various implementation periods in their respective mitigation proposals. This information could be incorporated into the Council's Five-year Action Plan. Implementation could proceed in a manner similar to that used for Hungry Horse and Libby dams, where the Action Plan sets up a schedule for advanced design (taking what are conceptual projects and designing them in greater detail), implementation and monitoring.

Approving the full scope of the mitigation proposals obviously would be viewed positively by the agencies and tribes. It would provide the greatest level of mitigation to the wildlife and wildlife habitat impacted by the various dams. Approving the mitigation proposals also would reconfirm the Council's past actions that a project-by-project approach (i.e., developing wildlife mitigation proposals as set forth in Section 1003(b)(2)-(4) of the program) is the correct method for developing future wildlife mitigation proposals. This would give Bonneville and the agencies and tribes the necessary direction to continue planning for the remaining hydroelectric facilities.

Issues

A decision to approve the mitigation proposals, as submitted by the agencies and tribes, raises a number of issues. The following are the most likely to arise:

- Approval of the mitigation proposals would entail agreeing with the agencies' and tribes' determination of the mitigation levels that should be funded by the ratepayers. While the case made by the agencies and tribes deserves further discussion, some would argue that the method of allocating wildlife mitigation costs is not correct and places too large a financial obligation on the ratepayers.

- The estimated costs of the mitigation proposals are high, especially in light of Bonneville's current wildlife budget. To fully execute the pending mitigation proposals, as much as $10 million may be needed per year over the implementation period mentioned earlier. Currently, Bonneville's wildlife budget is $1.1 million. The budget is expected to grow to $4.4 million in Fiscal Year 1989 and is proposed at $5 million for Fiscal Year 1990, or about 10 percent of the total fish and wildlife budget. These numbers are current estimates and could change. In addition to the costs for the new wildlife proposals, Bonneville will be funding wildlife planning for the remainder of the federal hydroelectric facilities and will be continuing to implement mitigation measures at Hungry Horse and Libby dams.

- Generally, the pending wildlife proposals stress land acquisition (by fee title purchase or easement) as the primary tool for achieving mitigation. While the agencies and tribes state that their proposals conform to the land acquisition criteria spelled out in the program, (Section 1003(d)(1)-(2)), large-scale land purchases raise a number of policy and institutional issues. In particular, concerns arise about the tax impact of acquisition (i.e., would land purchase remove land from property tax rolls?). In addition, another issue likely to arise is the responsibility for operation and maintenance costs and the management arrangements for acquired lands (i.e., will the lands be dedicated for wildlife purposes only or will other practices, such as cattle grazing, be permitted?).

Alternative 2. Adjust the wildlife mitigation proposals so that only a specified portion of the mitigation is funded by the region's ratepayers. Amend the proposals into the program accordingly.

Approach

Section 4(h)(8)(B) of the Northwest Power Act states in part that "consumers of electric power shall bear the cost of measures designed to deal with adverse impacts caused by the development and operation of electric power facilities and programs only." Some argue that because most of the federal dams are multipurpose projects and most of the project features causing impacts to fish and wildlife serve all project purposes, hydroelectric power purchasers are not obligated to pay for all fish and wildlife impacts caused by the project but only for the hydroelectric share of those impacts.

If the Council accepts this view and determines that the ratepayers should not be held accountable for 100 percent of the mitigation, it could adjust the mitigation proposals by some allocation method and amend that decision into the fish and wildlife program. This type of action would be similar to the decision made by the Council for the Hungry Horse and Libby dams wildlife mitigation plans.

In its decision on the Hungry Horse and Libby mitigation plans, the Council used the Congressional repayment formula to determine the ratepayer obligation. The Council also has used this formula as one method to determine the percentage of basinwide salmon and steelhead losses attributable to hydroelectric development.[18] Simply stated, the Congressional repayment formula shows how Congress determined the cost of a dam should be repaid (in percent of total returnable dollars from the plant investment). While several other methods for determining ratepayer responsibility are available, most discussions have centered around the Congressional repayment formula and the Corps/Bureau Joint Cost Allocation which uses the Separable Costs-Remaining Benefits (separable costs) method.[19] This separable costs method assigns project costs to individual project purposes. The allocation is based on the costs directly attributable to an individual project purpose (e.g., a powerhouse, which is part of the dam only in order to generate power) plus a share of joint costs (e.g., the cost of the dam, which serves all project purposes). The joint costs are allocated in proportion to the planned benefits of each individual project purpose.

18./ In their estimates of salmon and steelhead losses, the Council estimated anadromous fish run size reduction due to "dam losses." The Council multiplied the dam loss figure by the average percent of hydropower purpose of dams to obtain a loss figure attributable to the hydropower system. While the Council looked at several allocation methods, it concluded that the repayment allocation method appeared appropriate as the estimate of the percentage of dam loss attributable to the hydropower for federal projects, because this represents the amount of the project that is being paid for by hydropower ratepayers.

19./ The Allocation of Fish and Wildlife Costs, Pacific Northwest Utilities Conference Committee, September 1987.

The following table shows the adjustment (percentage) for hydropower allocation using these two methods.

Project	Congressional Repayment	Separable Costs Method
Grand Coulee	91.5%	43%
Willamette Basin		
Cougar	31	23
Detroit/Big Cliff	61	40.5
Green Peter/Foster	55	41.5
Hills Creek	36	24.5
Lookout Point/Dexter	48	31
Palisades	12	7.5
Anderson Ranch	33	5
Black Canyon	33	50

Should the Council choose one of these methods, it could adjust the proposed values in the five mitigation proposals, i.e., adjust the habitat types (acres) and/or the habitat units, which would reduce the number of proposed projects and the overall mitigation cost.

Issues

Limiting the ratepayer responsibility for wildlife mitigation proposals by use of any of these allocation methods would reduce significantly the overall cost of mitigation. The Council would be agreeing that the dams are multiple purpose facilities and that the ratepayers of the region should not be held responsible for paying 100 percent of the mitigation for losses to wildlife and wildlife habitat.

The agencies and tribes are likely to oppose this alternative. Their position is that the mitigation proposals estimated losses and addressed mitigation for hydro-related losses. Therefore, the agencies and tribes believe strongly that the ratepayers of the region should fund the mitigation they are proposing.

Alternative 3. Defer action on the pending wildlife mitigation proposals until wildlife policy issues can be addressed or all wildlife mitigation planning under the program is complete.

Approach

There are two variations of this alternative. First, the Council could defer entering rulemaking on the pending wildlife mitigation proposals for a period of time, allowing more time for discussion of basinwide wildlife policy issues, perhaps through development of a wildlife policy issue paper.

A short-term deferral (less than one year) could give the Council more time to analyze the complex wildlife policy issues raised in this paper. During this time period, the Council could sponsor a series of regional workshops, round tables or consultations with the affected parties. The Council also could use its authority to establish a technical and/or policy-level advisory committee to discuss and forward wildlife recommendations to the Council. In the interim, the Council could approve priority wildlife projects identified in the mitigation proposals. Alternatively, current mitigation proposals could be held until the wildlife policy issues are resolved.

Second, the Council could consider a longer-term deferral until all wildlife mitigation planning for the federal hydroelectric facilities in the basin are complete. This would allow the Council to review the full scope of the basin's wildlife proposals before taking action.

Issues

Obviously, an advantage of deferring action would be to give the Council added time to deliberate on these issues. However, there are disadvantages. First, some of the wildlife mitigation proposals have been pending for nearly two years. Deferral of action may be interpreted as affording wildlife mitigation a low priority.

Further, since a short-term deferral places the agencies and tribes in a holding pattern for implementing measures at Grand Coulee, the Willamette Basin, Palisades, Anderson Ranch and Black Canyon dams, the agencies and tribes are likely to oppose it. In addition, it is uncertain that deferral will result in consensus on wildlife issues, as many of the issues have been debated for some time.

Waiting until all wildlife mitigation proposals are complete before making a decision on the pending proposals would result in a delay of at least two years. Several wildlife planning documents (loss statements/ mitigation proposals) for other hydroelectric projects in the basin are not scheduled to begin until late this fiscal year or next. It is possible that the time needed to complete these proposals fully could be as much as three years. Should the Council choose to defer action, it might be useful to provide additional guidance for the completion of the plans at the remaining hydroelectric facilities in the basin.

Alternative 4. Define the boundaries of the wildlife program by a specified program level of effort and pace implementation for approved mitigation proposals over an appropriate time period.

Approach

The Council might decide to pace the implementation of wildlife mitigation projects through a program level of effort approach. That is, the Council could determine a level of wildlife funding that Bonneville or others "can be expected" to fund over a given number of years. Various alternatives could be used to implement this approach:

- **Approve specific wildlife projects and control the pace of implementation in the Action Plan.**

  Using this approach, the Council could approve specific wildlife projects (e.g., from the pending and future wildlife mitigation proposals) and amend them into the fish and wildlife program. Wildlife projects included in the program would have to meet the Act's general standards in section 4(h)(5)-(6), i.e., they: protect, mitigate and enhance wildlife affected by the development at the hydroelectric facilities; do not impact a reliable power supply; complement activities of fish and wildlife agencies and tribes; are based on the best available scientific knowledge; use the least expensive means of achieving a sound biological objective; and are consistent with Indian legal rights (see Section 4(h)(5)-(6) of the Northwest Power Act).

  To pace the implementation of these wildlife projects, the Council could estimate (i.e., based on judgment of proper funding levels comparing wildlife needs with fish needs) the level of effort Bonneville can be expected to fund over the next five years. The Council would include in the Action Plan (for funding in coming five years) only those wildlife projects that it found consistent with the funding level of effort. The Action Plan list could be amended subsequently as needed to include new wildlife projects from future mitigation proposals or to alter the level of effort.

- **Limit the program level of effort to wildlife projects that address the greatest need for wildlife restoration or protection and pace the implementation in the Action Plan.**

  In this method, the pace of implementation and funding level of effort would remain the same as the preceding approach. However, the standard for approving wildlife mitigation projects would change. Rather than include all wildlife projects from the mitigation proposals (e.g., those that meet the Act's standards), the Council could limit or prioritize the program. It might address threatened or endangered species and their habitats or projects that address regional species of concern. Wildlife projects meeting these criteria either could be selected from the existing and future mitigation proposals or regionally prioritized by an advisory committee to focus mitigation in areas of greatest biological need.

Issues

Should the Council wish to pursue this alternative, the following concerns may need further discussion.

Level of effort. Obviously, choosing the right funding level of effort will be difficult and would need to be discussed further with the agencies, tribes, utility interests, Bonneville and other affected parties. The dollar amount would need to take into account that the Northwest Power Act directed the Council to develop a program for both fish and wildlife; that limited funding has been directed to wildlife mitigation thus far; and that, generally, the cost of wildlife mitigation is relatively high.

This paper does not propose a specific level of effort. There are several alternatives that might be used. One approach is to calculate the overall level by determining an appropriate dollar amount per acre inundated. Hungry Horse and Libby dams might be used as an example. Bonneville and the Montana Department of Fish, Wildlife and Parks are negotiating a settlement

using a trust fund to implement wildlife mitigation at Hungry Horse and Libby dams. Using this approach, the cost to ratepayers may be substantially less than a conventional year-by-year funding scheme.

Council staff estimated the cost for wildlife mitigation at Hungry Horse and Libby dams to be approximately $16 to $20 million. These were initial 10-year costs plus annual operation and maintenance. After adjusting the acreage figures to account for the hydropower allocation, the mitigation cost per acre is between $400 and $500 per acre. While these are estimated numbers, this may be an approach to use for the pending mitigation proposals.

Another approach would be to target Bonneville's wildlife budget at a specified level, say approximately $6.5 million per year. (This is the outyear funding level estimated by Bonneville, Council staff and the Columbia Basin Fish and Wildlife Authority in outyear budget discussions that were conducted in 1987.) Other approaches include setting a percentage of fish and wildlife funding that would be available for wildlife or simply negotiating the wildlife funding level among all interested parties.

Use of trust funds. Selection of a funding level also might be considered with the use of a trust fund(s) to implement the wildlife programs. The trust fund concept would have to be discussed with Bonneville, but on the surface it appears to offer substantial savings to the ratepayer. The Council may want to consider a regional trust fund or provide trust funds at the state or state/tribal level. The Council encourages comment on any other funding mechanisms that might appropriately be used for wildlife mitigation funding.

Alternative 5. Develop guiding policies for wildlife and amend them into the fish and wildlife program.

Approach

As stated earlier in this paper, some have argued that the wildlife program (Section 1000) lacks specific policy direction due to the absence of program goals and objectives, i.e., goals similar to the Council's interim goal of doubling the salmon and steelhead runs. While it could be difficult to articulate a similar goal for wildlife, it may be appropriate to reevaluate the current wildlife program and make some policy decisions on some of the issues that have consistently arisen since inception of the wildlife program.

Should the Council decide it wants to develop guiding policies for the wildlife program, a separate issue paper describing policy options in detail might be developed. Briefly, the issue paper could analyze the following areas of concern.

Establish framework, goals and objectives. To ensure logical and consistent implementation of target goals and objectives, the Council may wish to consider providing a framework for making wildlife mitigation plan decisions and for implementing wildlife mitigation measures. The purpose of the framework would be to provide a systemwide perspective on the relationship among individual wildlife program measures. The framework could include the target goals; policies to guide achievement of those goals; a process to plan future efforts; and a monitoring and evaluation process to measure progress toward the goals and to provide assurance that corrective actions could be taken if the goals were not being achieved.

Establish interim target goals. The Council could restructure the existing wildlife program by establishing a specific program goal with regional wildlife mitigation objectives (program measures) outlined in the Five-year Action Plan. The goal could be articulated in biological terms, e.g., the wildlife program could be limited to threatened or endangered wildlife populations and their habitat or regional species of concern. Alternatively, wildlife projects might be prioritized geographically, with priority given to projects in those areas that lack salmon and steelhead rehabilitation opportunities. The Council could conceivably factor in other considerations such as the number of resident fish substitution projects or other program measures being undertaken in a given location. Another option would be for the Council to specify the program level of effort, e.g., defining the level of dollars that will be allocated to the wildlife program over a given period of time (similar to the previous alternative). In either case, the mitigation proposals that have been developed by the agencies and tribes could provide the basis for selecting specific objectives (high priority program measures and action items) to meet the program goal(s).

Land acquisition. The Council may want to review the present criteria for land acquisition (1003(d)(1)-(2)) and make changes. In particular, the Council may want to prioritize the type of protection and enhancement actions it would emphasize during implementation of the program. As an example, the Council may want to stress wildlife enhancement projects on public or tribal lands over fee title acquisition of private lands.

Private utility projects. Currently, the issue of wildlife mitigation planning and implementation at nonfederal hydroelectric projects remains unclear in the program. The current fish and wildlife program calls for mitigation planning activities (1003(b) planning process) to take place at most of the nonfederal projects in the basin. However, with the exception of a few cases, Bonneville and the private utility operators have not carried out mitigation planning and implementation activities at non-federal dams. The Council may want to discuss this issue with the interested parties and make clear its policy direction in the program.[20] Additionally, in the case of many non-federal dams, FERC has required, as a condition of the project license, that certain types of mitigation be carried out by the project operator to offset damage to wildlife caused by construction and operation of the project. The Council is interested in comment on the extent of mitigation at non-federal projects and whether it is viewed as being adequate.

Hydropower allocation. As discussed earlier, this issue addresses who should pay for mitigation. To date, several methods for allocating responsibility for funding wildlife mitigation have been discussed. The Council may want to make a policy decision to guide future mitigation proposals.

Issues

As noted earlier, if the Council decides to pursue the development of a wildlife policy for the program, another issue paper may be written to further explore the issues. This could delay action on the pending mitigation proposals. The Council also may want to examine the pending mitigation proposals and select a few of the highest priority projects for earlier, limited

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20./ With regard to future proposals for non-federal hydroelectric projects, the Council does not anticipate the need for Bonneville-funded mitigation planning but rather would expect the conditions specified in program Section 1103(a)(2) to be incorporated into the Federal Energy Regulatory Commission (FERC) licenses for these projects.

implementation while a policy is being developed. In addition, if the Council selects this alternative, it might want Bonneville to delay further planning (see Attachment 1) until the Council has established the policy that will guide the future wildlife program.

Attachments

mvax::larry:[fw]montg wildlife issue paper

Attachment 1

STATUS OF WILDLIFE MITIGATION PLANNING (FEDERAL HYDROELECTRIC FACILITIES)

Hydro Facility	Status Report	Loss Statement	Mitigation Plan	Additional Comments
Hungry Horse	Completed	Completed	Completed	Mitigation plan amended into program in 1987.
Libby	Completed	Completed	Completed	Mitigation plan amended into program in 1987.
Grand Coulee	Completed	Completed	Completed	Mitigation proposal submitted to Council in 1986.
Palisades	Completed	Completed	Completed	Mitigation proposal submitted to Council in 1987.
Willamette Basin	Completed	Completed	Completed	Mitigation proposal for 8 hydro facilities submitted to Council in 1987.
Anderson Ranch/ Black Canyon	Completed	Completed	Completed	Mitigation proposal submitted to Council in 1987.
Bonneville	Completed	Started 1987	Scheduled for FY89	USFWS lead agency.
Boise Diversion	Completed	Completed	[1]	---

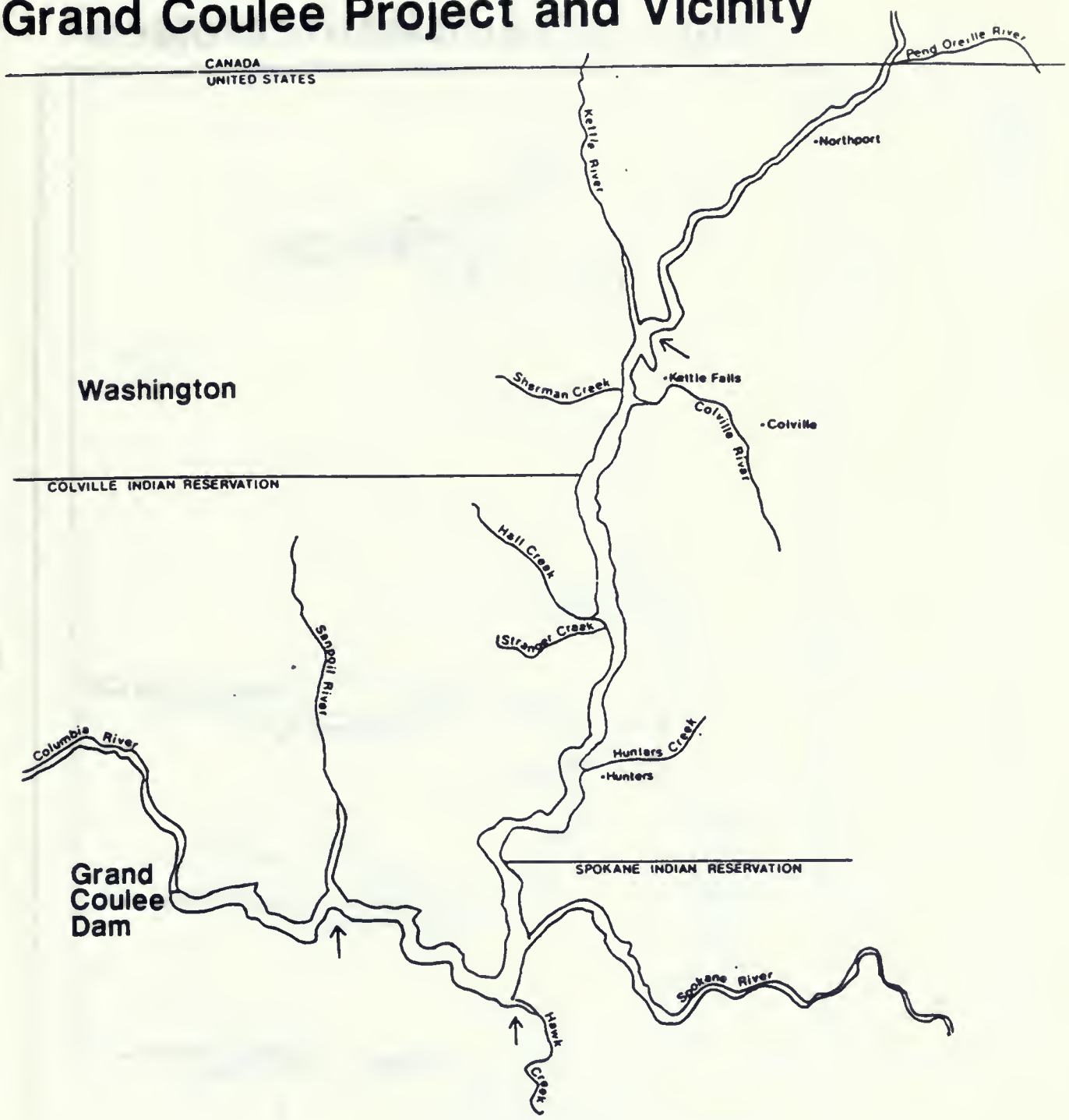
[1] The loss statement indicated only 60 acres of wildlife habitat were lost because of the project. Development of a mitigation plan was not pursued for that reason.

Hydro Facility	Status Report	Loss Statement	Mitigation Plan	Additional Comments
Dworshak	Completed	Started June 1987	Proposed for FY88	---
Albeni Falls	Completed	Started September 1987	Completed Fall 1988[2]	One contract for loss statement & mitigation plan.
Minidoka	Completed	Proposed for FY88	Proposed for FY89	---
Chief Joseph	Completed	Proposed for FY88	Proposed for FY89	One contract for loss statement & mitigation plan.
Lower Snake Projects	Completed	Started	Proposed for FY89	Loss Statement being funded by Corps under F/W Coordination Act.
McNary/John Day/The Dalles	Completed	Proposed for FY88	Proposed for FY90	---

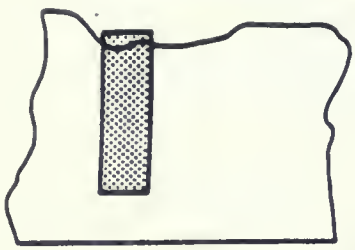
[2] This mitigation plan has been completed and is currently being printed by Bonneville.

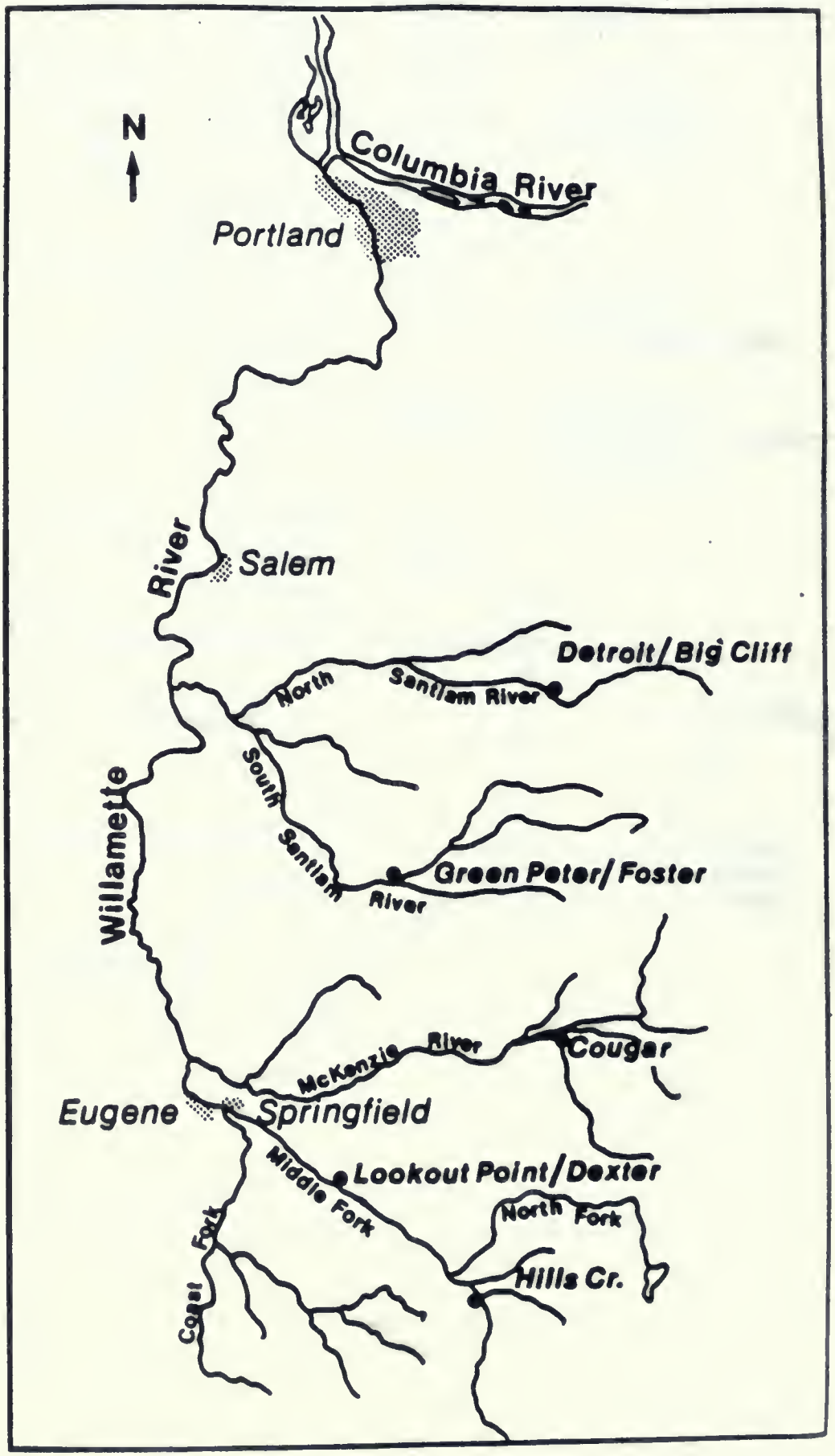
Attachment 2

Grand Coulee Project and Vicinity



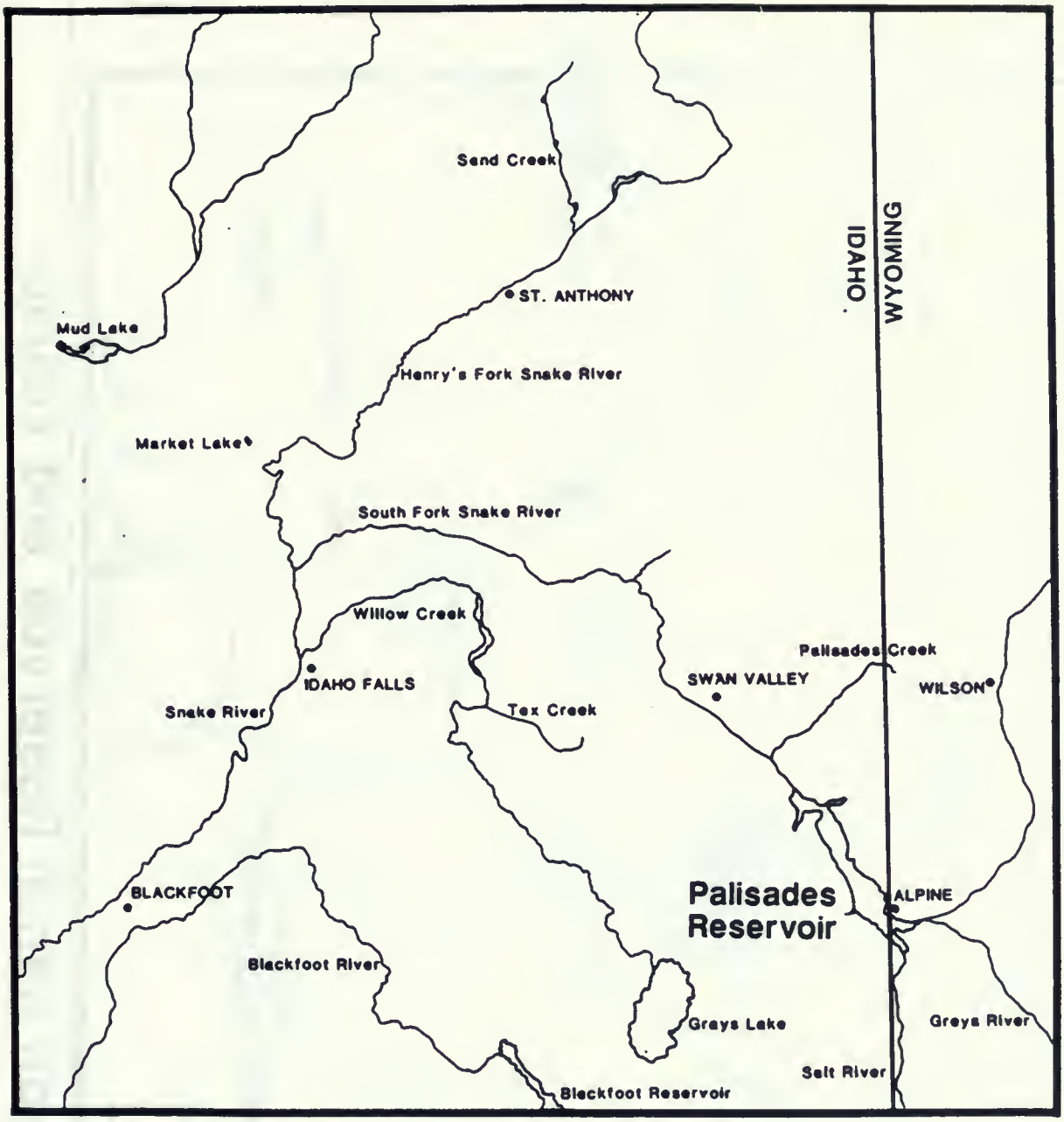
Willamette River Basin
Federal Hydroelectric Projects

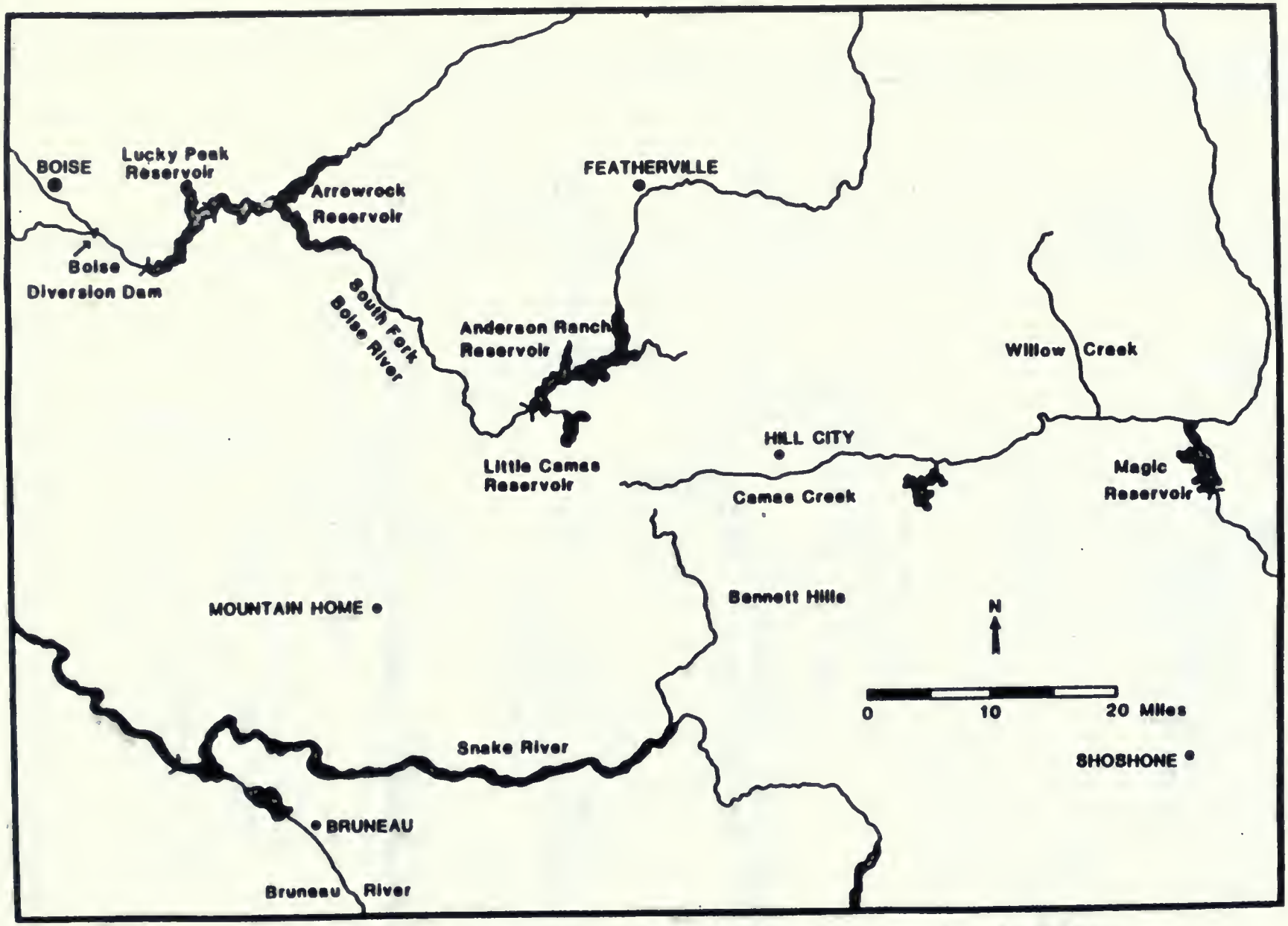




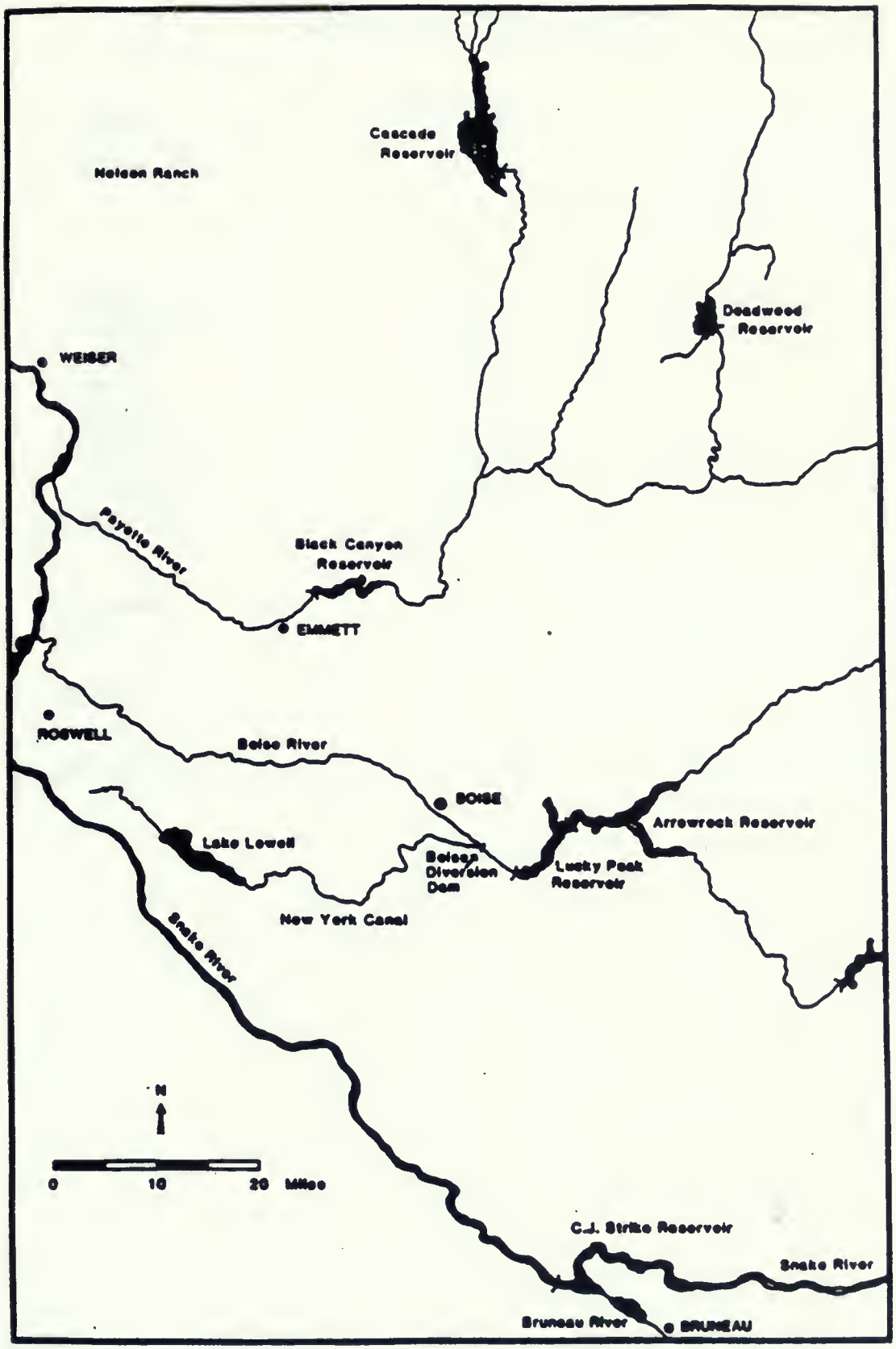
Attachment 2

Palisades Project Area





Anderson Ranch Reservoir and vicinity



Black Canyon Reservoir and vicinity

Attachment 3

SUMMARY OF WILDLIFE IMPACTS

Project	Acres Inundated	Habitat Units (HU) Lost
Grand Coulee	70,000	111,171 HUs for 8 indicator species or indicator habitat plus 74 Canada Goose nest sites
Willamette Basin		64,000 HUs for 12 target species
Hills Creek	2,710	
Cougar	1,280	
Detroit	3,580	
Big Cliff	141	
Green Peter	3,605	
Foster	1,195	
Lookout Point	4,255	
Dexter	1,025	
Palisades	16,150	37,068 HUs for 9 target species
Anderson Ranch	4,740	9,619 HUs for 7 target species
Black Canyon	1,100	2,238 HUs for 8 target species